

**REMARKS**

**Objection to the drawings:**

Paragraph 6 of the Action objects to figure 12 because the reference numeral “70” is used to refer to the data preceding optional time-frequency domain transformation section 110 and the data following optional section 110. Applicant has amended figure 12 to remove the reference to the data following optional section 110. A Replacement Sheet reflecting the change to figure 12 is enclosed. In addition, the remaining drawings previously presented are also enclosed and marked "Previously presented." Applicant believes that this amendment, combined with the amendment to the specification discussed in the following section, is sufficient to overcome the objection. Accordingly, applicant respectfully request withdrawal of the objection. Applicant believes that no new matter has been entered as a result of the amendment.

**Objection to the specification:**

Paragraph 7 of the Action objects to the specification because the reference numeral “70” is used in figure 12 to refer to the data preceding optional time-frequency domain transformation section 110 and the data following optional section 110. As noted, Applicant has amended figure 12 to remove the reference to the data following optional section 110; however, Applicant believes that the specification was sufficiently clear. What the specification said was that the data “70” supplied to section 72 comprises time domain data if optional section 110 is not present, but that it comprises frequency domain data if section 110 is present., which in fact is the case.

The specification as written did not create any ambiguity in the claims, because the specification makes clear that the data supplied to section 72 can be either time domain data or frequency

domain data. If a claim includes an optional time-frequency domain transformation section, then the data is clearly time domain data. If the claim does not expressly include a time-frequency domain transformation section, then clearly the data can be either, absent some other limitation in the claim.

In order to ensure that this is clear, however, applicant has amended figure 12 to remove the reference to the data following optional time-frequency domain transformation section 110. Further, Applicant has amended the specification above to make clear that the data “70” supplied to section 72 can be time domain data or frequency domain data depending on whether optional section 110 is present.

Applicant believes that the above amendment to the specification, combined with the amendment to figure 12, is sufficient to overcome the objection. Accordingly, Applicant respectfully requests withdrawal of the rejection. No new matter is believed to have been added as a result of the amendment to the specification.

**Claim Objections:**

Paragraph 8 objects to claims 1 and 16 because the order of the limitations are not necessarily optimal for purposes of readability. Applicant has re-order the limitations of claims 1 and 16 as suggested. Accordingly, Applicant respectfully request withdrawal of the objection.

Paragraph 9 of the Action objects to claims 4, 6, and 17 due to the misspelling of the word “despread.” Applicant has corrected the misspelling in the amendments above and, therefore, respectfully requests withdrawal of the objection.

**Claim Rejections Under §103:**

Paragraph 11 rejects claims 1, 3, 5, 11, and 13 as being obvious under 35 U.S.C. 103(a) in light of Sugita (U.S. Patent No. 5,757,766), in view of Cafarella (U.S. Patent No. 5,809,060), in further view of Scott (U.S. Patent No. 6,388,997), and in further view of Koppelaar (U.S. Patent No. 5,416,767). Applicant respectfully traverses this rejection for at least the reasons stated below.

In rejecting claim 1, the Action primarily relies on Sugita. The Action admits, however, that Sugita fails to teach several of the steps comprising claim 1. Accordingly, Sugita cannot render claim 1 unpatentable, because as the Action admits, Sugita fails to teach, suggest, or disclose each and every element of claim 1. The Action must rely on the other three cited reference to make up for the deficiencies of Sugita. The references referred do not, however, support a *prima facie* case of obviousness because *inter alia* none of the references teaches a “common spreading code” as taught by the present application and claimed in independent claim 1. Moreover, none of the references include a motivation to combine any one reference with any other, much less a motivation to combine the teachings of all four references to achieve the very specific combination of claim 1. Similarly, none of the reference include any indication that one would be successful in achieving the very specific invention as claimed in claim 1 by combining these four different references.

“To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior

art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).” See MPEP §706.02(j).

In this instance, the references used to reject claim 1 fail to meet all three of these requirements. First, the references fail to teach each and every claim limitation. The Action admits that Sugita, the primary reference, fails to teach, suggest or disclose “(a) that said spreading activity comprises temporally offsetting application of said common spreading code to said plurality of unspread substreams so that said spread substreams correspond to said unspread substreams modulated by cyclic variations of said common code, (b) using a mismatched filter to generate a baseband signal, or (c) performing a first time frequency domain transformation on said unspread substream at said transmitter prior to said spreading activity.” (emphasis omitted).

Further, Applicant respectfully disagrees with the Action’s assertion that Sugita teaches generating a common spreading code at said transmitter. As repeatedly explained in the present application, the term “common spreading code” is used to refer to a single code that is used to spread each of a plurality of unspread substreams. *See, e.g.*, page 7, lines 27-28, page 10, and lines 17-18, page 13, lines 17-18. In each embodiments described, cyclic variations of this single spreading code are used to spread different substreams of the plurality of unspread substreams. *See Id.*

Conversely, Sugita does not teach suggest, or disclose using a single code to spread a plurality of unspread substreams. In Sugita, the “code channels” are equivalent to the unspread substreams of the present application. Unlike the present application, in Sugita a different spreading code is

generated for each unspread substream. *See* col. 5, lines 9-12, *et seq.* Accordingly, Sugita does not teach generating a common spreading code at said transmitter. Rather, Sugita teaches generating a different spreading code for each unspread substream.

Because Sugita fails to teach, suggest, or disclose each and every element of the claimed invention, the Action must rely on the remaining references to make up for the deficiencies of Sugita in order to establish a *prima facie* case of obviousness. The combined references fail, however, to make up for the deficiencies of Sugita, because they do not, alone or in combination, teach all of the elements missing from Sugita.

Second, the rejection must fail because the references were improperly combined. As noted above, “[t]he teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).” *See* MPEP §706.02(j).

The Action relies on Cafarella for teaching “the benefits of using a single temporally offset spread spectrum code to spread different data signals.” Applicant respectfully disagrees. First, Cafarella states that “time-shifted modulations [of the same code] are *unsuitable* because the demodulation can be ambiguous when subjected to multipath time delays.” *See* col. 9, lines 65-67 (emphasis added). Accordingly, Cafarella does not teach “the benefits of using a single temporally offset spread spectrum code to spread different data signals,” as stated in the Action.

Moreover, the Action fails to provide any motivation or likelihood of success for combining Sugita with Cafarella and thus, the references were improperly combined. The Action in fact makes no attempt to provide a likelihood of success and, therefore, combining the two references was improper on that basis alone.

The Action attempts to provide a motivation to combine by stating that “it would have been obvious to one of skill in the art at the time the invention was made to use time shifted versions of a single spreading code as taught by Cafarella among the plurality of data signals disclosed by Sugita because the cyclic time shifted versions of the spreading code provide nearly orthogonal cross correlation properties that are advantageous for multiple user communication system.” The Action does not cite either specification in support of this statement and at best appears to be based on improper hindsight. Moreover, the statement is, as explained above, based on an improper reading of Cafarella as explained above.

Each finding of fact upon which a conclusion of obviousness is based must be supported by substantial evidence and, in particular the conclusion that the prior art suggests or motivates the modification of a prior art reference must be based on findings supported by substantial evidence. *In re Kotzab*, 217 F. 3d 1365, 1370-71 (Fed. Cir. 2000). Hence, a *prima facie* case of obviousness cannot be made out by merely asserting that modifications to the prior art are “well within the ordinary skill of the art.” *Ex Parte Leavengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). Accordingly, Applicant asserts that the Action fails to make out a *prima facie* case of obviousness, because it fails to provide the substantial evidence in support of the conclusion that *the cited references* teach a motivation to modify the teachings of Sugita with the teachings of Cafarella.

The Action goes on to state that Scott teaches “the advantage of the use of a mismatched filter” and that Koppelaar teaches “performing a first time-frequency domain transformation on substreams at a transmitter prior to spreading or modulation activity.” As with Cafarella above, however, the Action fails to provide the substantial evidence in support of the conclusion that the

*cited references teach* a motivation to modify the teachings of Sugita with the teachings of Cafarella or that one would be successful in doing so.

Because the Action fails to make but a *prima facie* case of obviousness, Applicant respectfully request that the rejection be withdrawn as to claim. Further, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *See* MPEP 2143.03 citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Accordingly, Applicant respectfully request withdrawal of the rejection as to claims 3, 5, 11, and 13 because they depend from claim 1 which is itself allowable over the art of record.

Paragraph 12 rejects claim 4 as being obvious under 35 U.S.C. 103(a) in light of Sugita, in view of Cafarella, in further view of Scott, in further view of Koppelaar, and in further view of O'Shea (U.S. Patent No. 6,563,856). Applicant respectfully traverses this rejection for at least the reasons stated below.

In order for the cited references to render claim 4 obvious, O'Shea must make up for the deficiencies of Sugita noted above and teach the additional limitations of claim 4. O'Shea fails to make up for the deficiencies of Sugita and, therefore cannot render claim 4 obvious. Accordingly, applicant respectfully requests withdrawal of the rejection as to claim 4.

Paragraph 13 rejects claims 14 and 15 as being obvious under 35 U.S.C. 103(a) in light of Sugita, in view of Cafarella, in further view of Scott, in further view of Koppelaar, and in further view of Schilling (U.S. Patent No. 6,078,576). Applicant respectfully traverses this rejection for at least the reasons stated below.

In order for the cited references to render claims 14 and 15 obvious, Schilling must make up for the deficiencies of Sugita noted above and teach the additional limitations of claims 14 and 15. Schilling fails to make up for the deficiencies of Sugita and, therefore cannot render claims 14 and 15 obvious. Accordingly, applicant respectfully requests withdrawal of the rejection as to claims 14 and 15.

Paragraph 14 rejects claim 8 as being obvious under 35 U.S.C. 103(a) in light of Sugita, in view of Cafarella, in further view of Scott, in further view of Koppelaar, and in further view of the Baier article (Baier). Applicant respectfully traverses this rejection for at least the reasons stated below.

In order for the cited references to render claim 8 obvious, Baier must make up for the deficiencies of Sugita noted above and teach the additional limitations of claim 8. Baier fails to make up for the deficiencies of Sugita and, therefore cannot render claim 8 obvious. Accordingly, applicant respectfully requests withdrawal of the rejection as to claim 8.

Paragraph 15 rejects claim 10 as being obvious under 35 U.S.C. 103(a) in light of Sugita, in view of Cafarella, in further view of Scott, in further view of Koppelaar, and in further view of Kerckhove (U.S. Patent No. 5,870,432). Applicant respectfully traverses this rejection for at least the reasons stated below.

In order for the cited references to render claim 10 obvious, Kerckhove must make up for the deficiencies of Sugita noted above and teach the additional limitations of claim 10. Kerckhove fails to make up for the deficiencies of Sugita and, therefore cannot render claim 10 obvious. Accordingly, applicant respectfully requests withdrawal of the rejection as to claim 10.



Paragraph 16 rejects claims 16 and 20 as being obvious under 35 U.S.C. 103(a) in light of Sugita, in view of Cafarella, in further view of Kerckhove, and in further view of Koppelaar. Applicant respectfully traverses this rejection for at least the reasons stated below.

Applicant asserts that the reference cited, alone or on combination, do not render claim 16 obvious for much the same reasons discussed above, in particular with regard to Cafarella. Accordingly, Applicant respectfully request withdrawal of the rejection as to claim 16. Further, Applicant respectfully requests withdrawal of the rejection as to claim 20, because claim 20 depends form claim 16, which is itself allowable over the art of record.

Paragraph 17 rejects claims 17 and 19 as being obvious under 35 U.S.C. 103(a) in light of Sugita, in view of Cafarella, in further view of Kerckhove, in further view of Koppelaar, and in further view of Scott. Applicant respectfully traverses this rejection for at least the reasons stated below.

In order for the cited references to render claims 17 and 19 obvious, Scott must make up for the deficiencies of Sugita noted above and teach the additional limitations of claims 17 and 19. Scott fails to make up for the deficiencies of Sugita and, therefore cannot render claims 17 and 19 obvious. Accordingly, applicant respectfully requests withdrawal of the rejection as to claims 17 and 19.

Paragraph 18 rejects claims 21 and 22 as being obvious under 35 U.S.C. 103(a) in light of Sugita, in view of Cafarella, in further view of Kerckhove, in further view of Koppelaar, and in further view of Schilling. Applicant respectfully traverses this rejection for at least the reasons stated below.

In order for the cited references to render claims 21 and 22 obvious, Schilling must make up for the deficiencies of Sugita noted above and teach the additional limitations of claims 21 and 22. Schilling fails to make up for the deficiencies of Sugita and, therefore cannot render claims 21 and 22 obvious. Accordingly, applicant respectfully requests withdrawal of the rejection as to claims 21 and 22.

Paragraph 19 rejects claim 24 as being obvious under 35 U.S.C. 103(a) in light of Sugita, in view of Cafarella, in further view of Kerckhove, in further view of Koppelaar, and in further view of Baier. Applicant respectfully traverses this rejection for at least the reasons stated below.

In order for the cited references to render claim 24 obvious, Baier must make up for the deficiencies of Sugita noted above and teach the additional limitations of claim 24. Baier fails to make up for the deficiencies of Sugita and, therefore cannot render claim 24 obvious. Accordingly, applicant respectfully requests withdrawal of the rejection as to claim 24.

**Allowable Subject Matter:**

Applicant acknowledges that the Action states that claims 6, 7, 12, 18, and 23 contain patentable subject matter. Applicant, however, believes that all the pending claims are allowable for the reasons stated above.

**CONCLUSION**

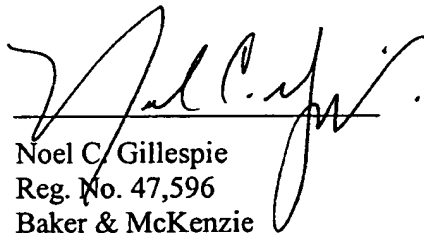
A change of correspondence address for the below-signed attorney of record is concurrently filed herewith. Please forward any future correspondence with regard to this matter to customer number 23562:

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Applicant believes that given the above amendments and remarks, the claims are new in condition for allowance and such is respectfully requested. No new claim fees are believed to be necessitated by this response. The Examiner is requested to charge any additional fees that may due with this response to deposit account 13-0480 .

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Respectfully submitted,



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